

**A PROCESS FOR QUENCHING A GASEOUS REACTION MIXTURE  
DURING THE GAS PHASE PHOSGENATION OF DIAMINES**

**ABSTRACT OF THE DISCLOSURE**

The present invention provides a process for quenching a gaseous reaction mixture during the phosgenation of diamines in the gas phase to produce diisocyanates. The gaseous reaction mixture contains at least a diisocyanate, phosgene and hydrogen chloride. The quenching liquid is injected into the gas mixture continuously flowing out of a cylindrical reaction zone into the downstream cylindrical quenching zone with the aid of at least two spray nozzles which are arranged at the entrance to the quenching zone at equal distances along the circumference of the quenching zone.